

## **Virginia DEQ - Universal Waste Lamp Crushing Frequently Asked Questions**

**Q: What is a Small Quantity Handler of Universal Waste? What is a Large Quantity Handler?**

A: A Small Quantity Handler (SQH) of Universal Waste (UW) is a facility that accumulates less than 5,000 kg (11,000 lb) of UW (batteries, pesticides, mercury-containing equipment, or lamps, calculated collectively) at their facility at any one time. A Large Quantity Handler (LQH) of UW is a facility that accumulates 5,000 kg (11,000 lb) or more of UW on site at any one time.

**Q: If I generate Universal Waste lamps at my facility, do I need to submit a notification to DEQ that I am a Universal Waste handler?**

A: A facility must submit a notification to DEQ if it is a Large Quantity Handler, a Destination Facility, or a handler that has a crushing operation at their facility, regardless of size. For a new crushing operation, notification must take place within 30 days of commencing the new operation. For existing crushers, notification must take place on or before January 31, 2017.

The crushing facility notification must include the following:

- The name of the company or individual which owns the crusher;
- EPA ID Number (if one has been issued);
- Physical location of the crushing operation; and
- Name, business address and phone number of the operators and principal contact persons for the generator.

If operations change at any crushing facility, notification of the change must be made within 15 days of the change occurring.

**Q: Approximately how many lamps are equal to 220 lbs.?**

A: The following amount of lamps weighs approximately 220 lbs. or 100 kg:

- 360 4' T12 lamps
- 540 4' T8 lamps
- 910 4' T5 lamps

**Q: I only want to crush lamps received from off site households. Do these UW lamp crushing requirements apply to me?**

A: No. Spent fluorescent lamps generated solely from households are exempt from the hazardous waste regulations, and therefore do not meet the definition of universal waste. The crushing of these lamps would not be regulated under the lamp crushing regulations.

**Q: I want to be able to crush lamps received off site from small companies and other generators. Do these UW lamp crushing requirements apply to me?**

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A: Yes. Without a permit, UW lamps may only be crushed on the site of generation (“on site”) or at a facility under the control of the generator. On site is defined in 40 CFR 260.10 as “the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along, the right-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access, is also considered on-site property.” If lamps are collected from various locations and taken to another off-site location (i.e., a location that does not meet the definition above) and crushed, then that site would be considered a destination facility (see 40 CFR 273.9 and 40 CFR 273.60) potentially subject to hazardous waste permitting as a storage and treatment facility. The crushed lamps would still be regulated as universal waste in Virginia. However, depending on where they are sent for further handling, manifesting as hazardous waste may be necessary if the receiving state does not consider crushed lamps as universal waste and the crushed lamps otherwise meet the definition of hazardous waste.

**Q: What do I need to do if I want to send my lamps to another location that is owned, leased or otherwise controlled by my company?**

A: A generator wishing to send UW lamps off site to another location under the control of the generator must provide one of the following certifications to DEQ prior to sending the UW lamps off site:

- i. “On behalf of [insert generator facility name], I certify that this facility will send the indicated UW lamps to [insert crushing facility name], which is controlled by [insert generator facility name] and that [insert the name of either facility] has acknowledged full responsibility for the safe management of the UW lamps“; or
- ii. “On behalf of [insert generator facility name] I certify that this facility will send the indicated UW lamps to [insert crushing facility name], that both facilities are under common control, and that [insert name of either facility] has acknowledged full responsibility for the safe management of the UW lamps. “

**Q: How is the crushing of non-hazardous lamps regulated?**

A: At a minimum, a facility crushing non-hazardous lamps would still need to comply with applicable OSHA standards. OSHA has a fact sheet on protecting workers from mercury exposure while crushing fluorescent lamps that covers many of the same things that are addressed in the UW lamp crushing regs such as worker training, PPE, clean-up of releases, use of a machine designed for crushing, proper O&M, etc. This fact sheet can be

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found at:

[https://www.osha.gov/Publications/mercuryexposure\\_fluorescentbulbs\\_factsheet.pdf](https://www.osha.gov/Publications/mercuryexposure_fluorescentbulbs_factsheet.pdf)

Facilities claiming that their mercury containing lamps are not a hazardous waste must maintain sufficient documentation to support this determination. Additionally, facilities do have the option to manage all mercury containing lamps as UW, if they choose to do so.

**Q: How long can I accumulate lamps on site before crushing them? How long can I accumulate the crushed lamps?**

A: If you are managing the spent lamps as universal waste (UW), you may accumulate them on site for no more than one year. Per the Virginia Hazardous Waste Management Regulations, “a used lamp shall be considered discarded and a waste on the date the generator permanently removes it from its fixture. An unused lamp becomes a waste on the date the generator discards it since that is the date on which he is deemed to have decided to discard it in accordance with 40 CFR 273.5(c)(2).” See 9 VAC 20-60-273.B.3(a).

The one year period is inclusive of any accumulation/storage prior to crushing as well as subsequent accumulation/storage of the crushed lamps. It is not based on the date the drum filling begins or when the drum containing the crushed materials is full.

For spent lamps received from off site, the one year time period starts when the wastes are received from off site.

**Q: Can anyone at my facility operate the crusher:**

A: All UW lamp handlers with crusher operations are required to develop training plans for their crusher operations. The training plans must include, at a minimum, training in the following elements:

- 1) Procedures to safely crush, handle, and store mercury-containing lamps. The procedures should address the following topics:
  - a) The type of equipment to be used to crush mercury-containing lamps safely;
  - b) Instructions for proper equipment operation;
  - c) Implementation of proper waste management practices during all aspects of the crushing operation (handling, loading, drum changing, etc.); and
  - d) The use of personal protective equipment which should include, at a minimum, safety glasses or full face shield and cut-proof gloves.
- 2) Procedures to minimize the release of mercury, including during drum changes and malfunctions.

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- 3) Procedures for dealing with emergencies. Specifically, the training should include language which outlines the procedure for cleaning up broken UW lamps in accordance with 40 CFR Part 273.13(d)(2) or 40 CFR Part 273.33(d)(2).
- 4) The maintenance schedule for the crushing unit which incorporates the manufacturer's specifications and which identifies all maintenance operations and the specified frequency, including replacement of particle filters and the activated carbon media.

Each crusher unit operator must receive an initial and recurring annual training in the crushing procedures, waste handling, safety, use of personal protective equipment, and emergency procedures contained in the training plan. Operators must complete the initial training before being allowed to operate the crusher units.

**Q: Can I throw the filters from the crusher into the same container with the crushed lamps?**

A: No, Virginia has adopted the federal definitions of "universal waste" and "lamps". As such, residuals from the crushing of lamps, such as filters, are not considered UW in Virginia. The regulations address the management filters and other residues from crushing operations at 9 VAC 20-60-1505.B.7.1. As a result, if the filters are to be treated and/or disposed, and they are determined to be a hazardous waste, the generator must meet all applicable requirements of the Virginia Hazardous Waste Management Regulations including, but not limited to, the requirements regarding management, manifesting, proper disposal at a permitted treatment, storage and disposal (TSD) facility, etc.

If the filters will be sent for reclamation, they may qualify for the exclusion from the definition of solid waste under Table 1 of 40 CFR 261.2 for a characteristic sludge being reclaimed. In this case, the generator is responsible for demonstrating that there is a known market or disposition for the material and that they meet the terms of the exclusion (40 CFR 261.2(f)).

Spent filters removed from a lamp crusher that will be sent for reclamation should be stored in a separate container (apart from the crushed lamps) and labeled in a manner to appropriately identify the contents. It is the generators responsibility to determine whether the filters qualify as hazardous or non-hazardous waste. Wording such as "Spent Filters for Recycling" or "Spent Filters to be Recycled – Hazardous Material" or "Used Lamp Crusher Filters – Contains Mercury" would be useful to help document that the materials are being handled as universal waste, and not being handled as hazardous waste. Containers holding the spent filters should be kept closed except when adding or removing filters.

Please note that the spent filters may not be speculatively accumulated. A material is not speculatively accumulated if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled and that during the calendar year (commencing on January 1) the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75% by weight or volume of

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the amount of that material (i.e., the total weight of the filters and not just the mercury content) accumulated at the beginning of the period. (See 40 CFR 261.1(c)(8).

**Q: Can I move my crusher around my facility to wherever it's needed, or can I take it to use at another site?**

A: No to both. A lamp crushing unit cannot be mobile, and the location of the crusher must be included in the notification provided to DEQ.

**Q: Can I operate my crusher anywhere at my facility?**

A: No. A crusher may not be operated outdoors. Also, a crusher may only be operated in areas that meet the secondary filtration and venting requirements found in the regulations.

**Q: Can I make my own lamp crusher?**

A: For all UW lamp handlers with a lamp crushing operation, the mechanical lamp crusher being used must comply with the following requirements in 9-VAC 20-60-1505.B.7:

- The crusher must be specifically designed to crush mercury-containing lamps;
- The crusher must be equipped with air pollution controls that capture both particulate and vapor phase mercury emissions. At a minimum, these controls must include:
  - A HEPA filter which achieves a particle retention rate of 99.97%;
  - A sorption column of sulfur-impregnated activated carbon media; and
  - Negative pressure maintained throughout the unit.

Additional requirements for the lamp crusher are as follows:

- The crusher must be hermetically sealed, except for air intakes, and kept under negative pressure;
- Air intake points on the crusher must be closed when the unit is not operating;
- The crusher cannot be mobile and the location of the crusher is to be included in the notification provided to DEQ; and
- The crusher may only be operated indoors.

**Q: Do transporters of UW lamps need to notify the DEQ or EPA before beginning to transport UW bulbs?**

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A: UW lamps transporters are not required to notify the Department of Environmental Quality (DEQ) or obtain an Environmental Protection Agency (EPA) identification number for this activity. In addition, they are not required to obtain a permit from DEQ for transportation of UW. However, they must comply with any other state or Federal laws or regulations that may apply (such as Department of Transportation (DOT) requirements).

**Q: Do all lamp crushers need to prepare a closure plan and provide financial assurance for closure costs?**

A: Only facilities that accumulate greater than 5,000 kg or more of UW lamps (not including other UW such as batteries, pesticides, and mercury-containing equipment) need to prepare a closure plan and provide for financial assurance.